Dart Aerospace Ltd.

Date: Tuesday, 1/8/2008 1:20:23 PM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BOLT
Job Number	: 36668		
Estimate Number	: 10372		
P.O. Number	: N/A	Part Number	: D312121
This Issue	: 1/8/2008 S.O. No. : N/A	Drawing Number	: D3121 REV E
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : MACHINED PARTS	Drawing Revision	: E
Previous Run	: 36608	Material	N/A
Written By	:	Due Date	: 1/31/2008 Qty: 60 Um: Each
Checked & Approved By	: 08.01.09		
Comment	: Est. A 04.02.09 New issue KJ/DS		
	Est Rev:B ECN 1060 07-11-12 DD verified by:EC		

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	M303H0500	303 HEX BAR

Comment: Qty.: 0.0417 f(s)/Unit Total : 2.5020 f(s)
303 HEX BAR
Material: AISI 303 SS 1/2" Hex Bar
(M303H0.500)
Batch: M06789 J.F. 08/01/13 (20)

2.0	HARDINGE	HARDINGE CNC LATHE SMALL

Comment: HARDINGE CNC LATHE SMALL
1-Turn D3121-21
2-Identify as D3121-21
3-Deburr break all sharp edges 0.005" to 0.010" J.F. 08/01/13

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE J.F. 08/01/13

4.0	QC8	SECOND CHECK

Comment: SECOND CHECK SA 08/01/13 (20)

5.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location: C6 08/01/13 60

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes (No) **DQA:** LD **Date:** 08/07/15

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Tuesday, 1/8/2008 1:20:23 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** BOLT

Job Number: 36668 **Part Number:** D312121

Job Number:

Seq. #:	Machine Or Operation:	Description :
6.0	QC21	FINAL INSPECTION/W/O RELEASE

70

Comment: FINAL INSPECTION/W/O RELEASE AD 08/09/15

Job Completion

4 08.01.14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	36668
Description: Bolt	Part Number:	D3121-21
Inspection Dwg: D3121 Rev: ~~D~~ E		Page 1 of 1

VE 08.01.09

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.375	+/-0.010	.383"	✓			
0.050 – 0.060	N/A	.059"	✓			
0.080	+/-0.010	.070"	✓			
10-32UNF3A	N/A	10-32 unf 3A	✓			

Measured by:	J.F.
Date:	08/01/13

Audited by:	SD
Date:	08/01/13

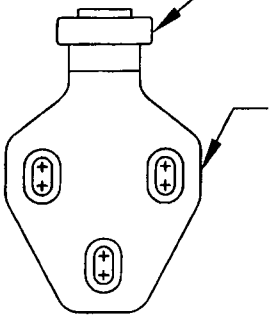
Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.02.27	New Issue	KJ/RF	
B	06.03.09	Dwg Rev. updated	KJ/JLM	
C	06.06.14	Dwg Rev. updated	KJ/JLM	

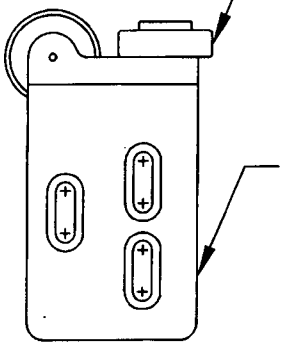
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3121 REV. E SHEET 1 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY SCALE 1:2

A	02.04.15	NEW ISSUE
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD −141/−143/−144/−145/−146
C	04.02.17	ADD CLEARANCE; USE −241 BEARING
D	06.05.17	D3121−25 CAP WAS 1.024, NOW 1.000
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)

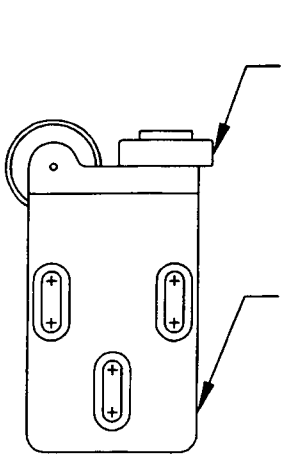
RELEASED
07.11.07



D3121−041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30−23000−33)



D3121−043 (SHOWN) / D3121−044 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30−23000−37/−38)



D3121−045 (SHOWN) / D3121−046 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30−23000−35/−36)

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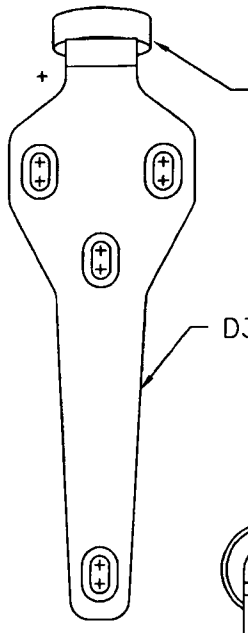
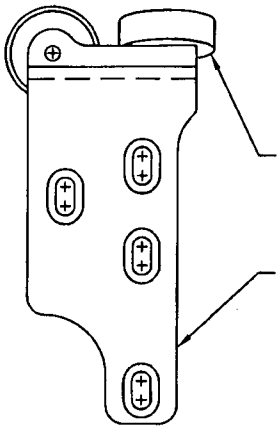
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

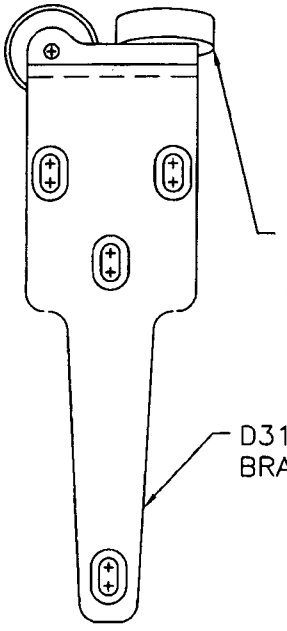


D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

RELEASED
07.11.07



D3121-143 (SHOWN) / D3121-144 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-145 (SHOWN) / D3121-146 (OPPOSITE) BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-05/-06)

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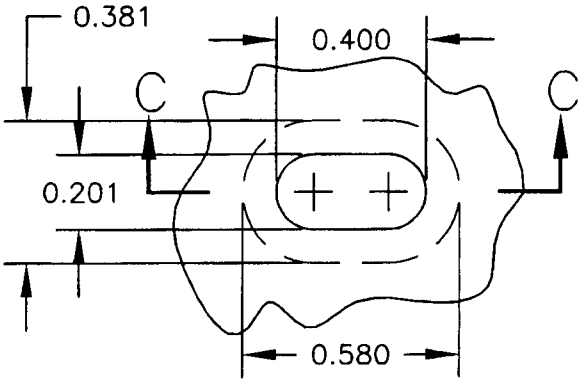
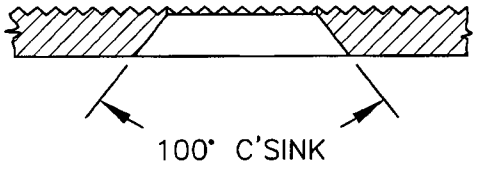
DATE 07.11.07		TITLE BRACKET ASSEMBLY — SCALE 1:1

DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED





SECTION C–C

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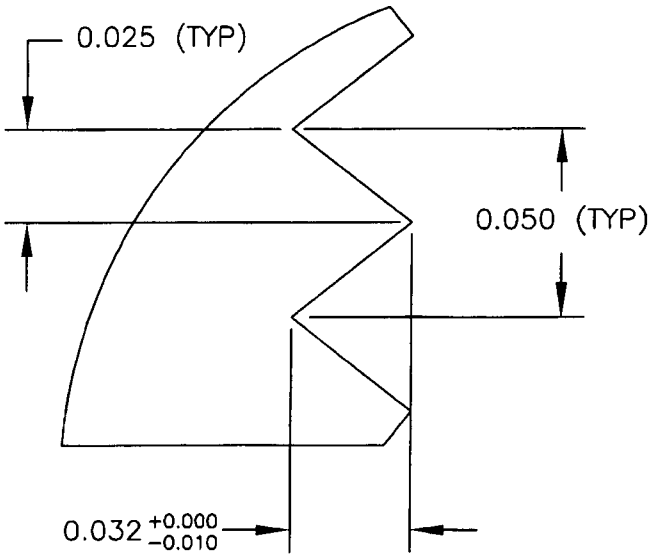
07.11.07

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



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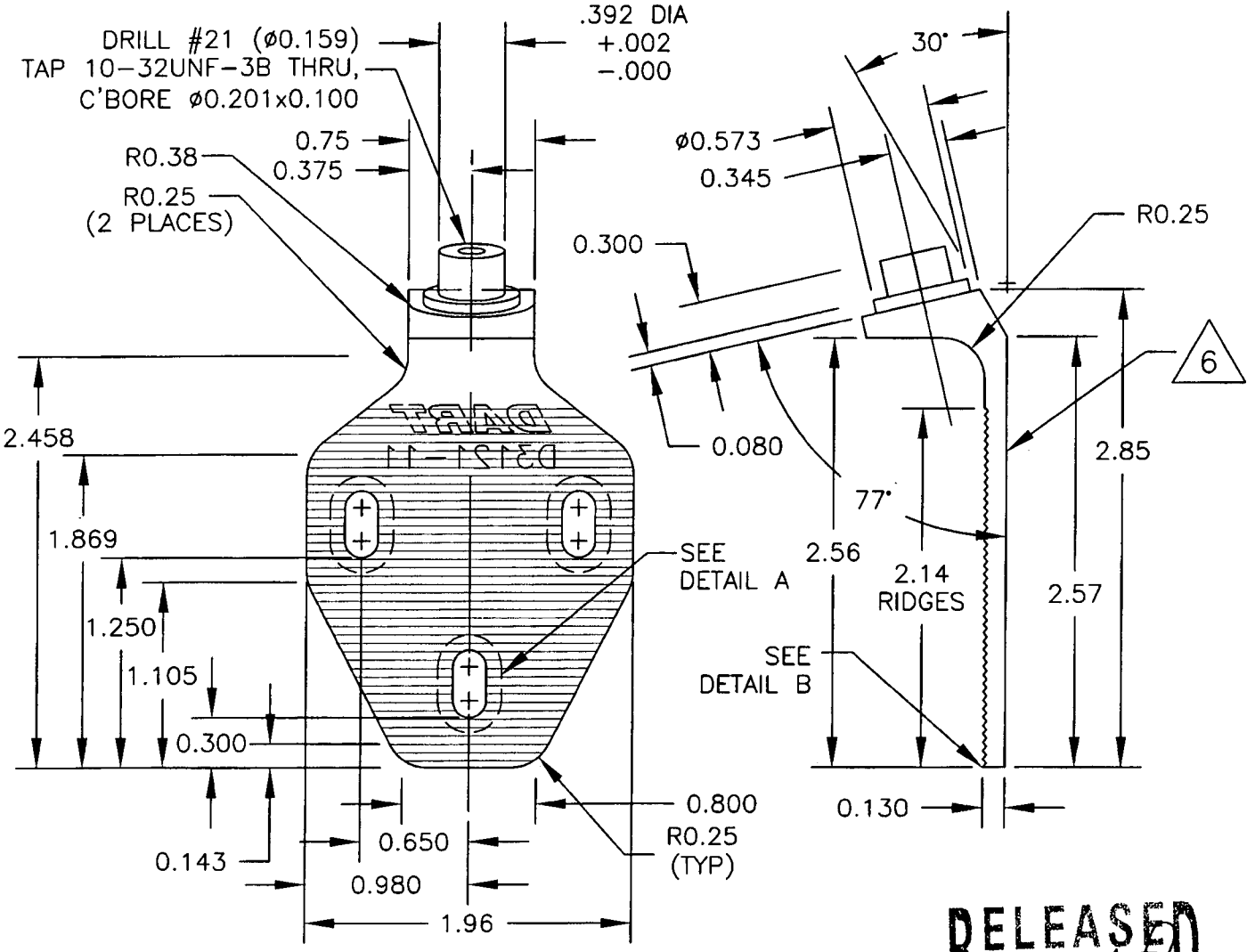
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1



RELEASED
07.11.07

D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N & LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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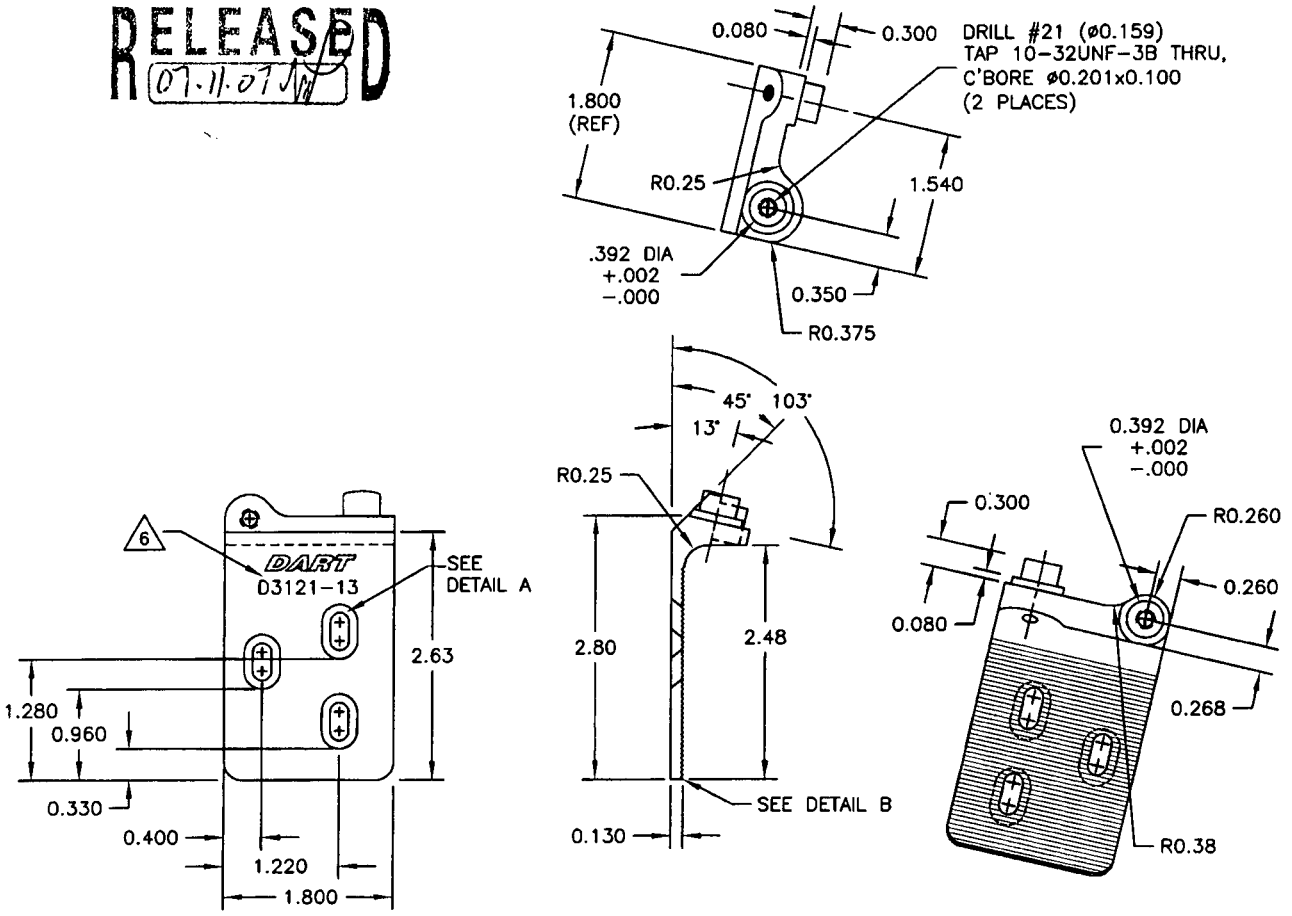
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07



D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N & LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

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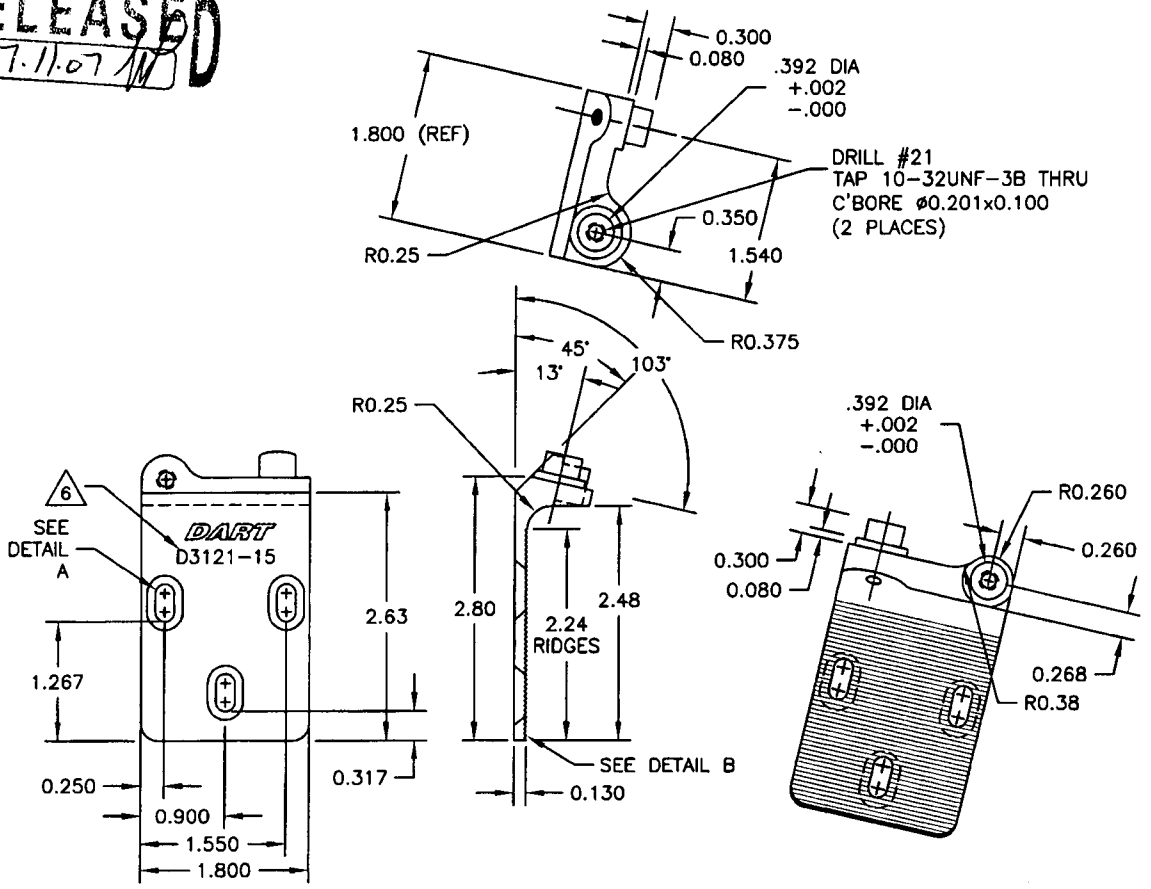

D3121−15 BRACKET (SHOWN)
D3121−16 BRACKET (OPPOSITE)

1) MATERIAL: 17−4 SS PER AMS 5604/5643 (REF DART SPEC. M17−4−B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES
4) BREAK ALL SHARP EDGES 0.005 TO 0.015
5) ENGRAVE DART P/N AND LOGO AS SHOWN
6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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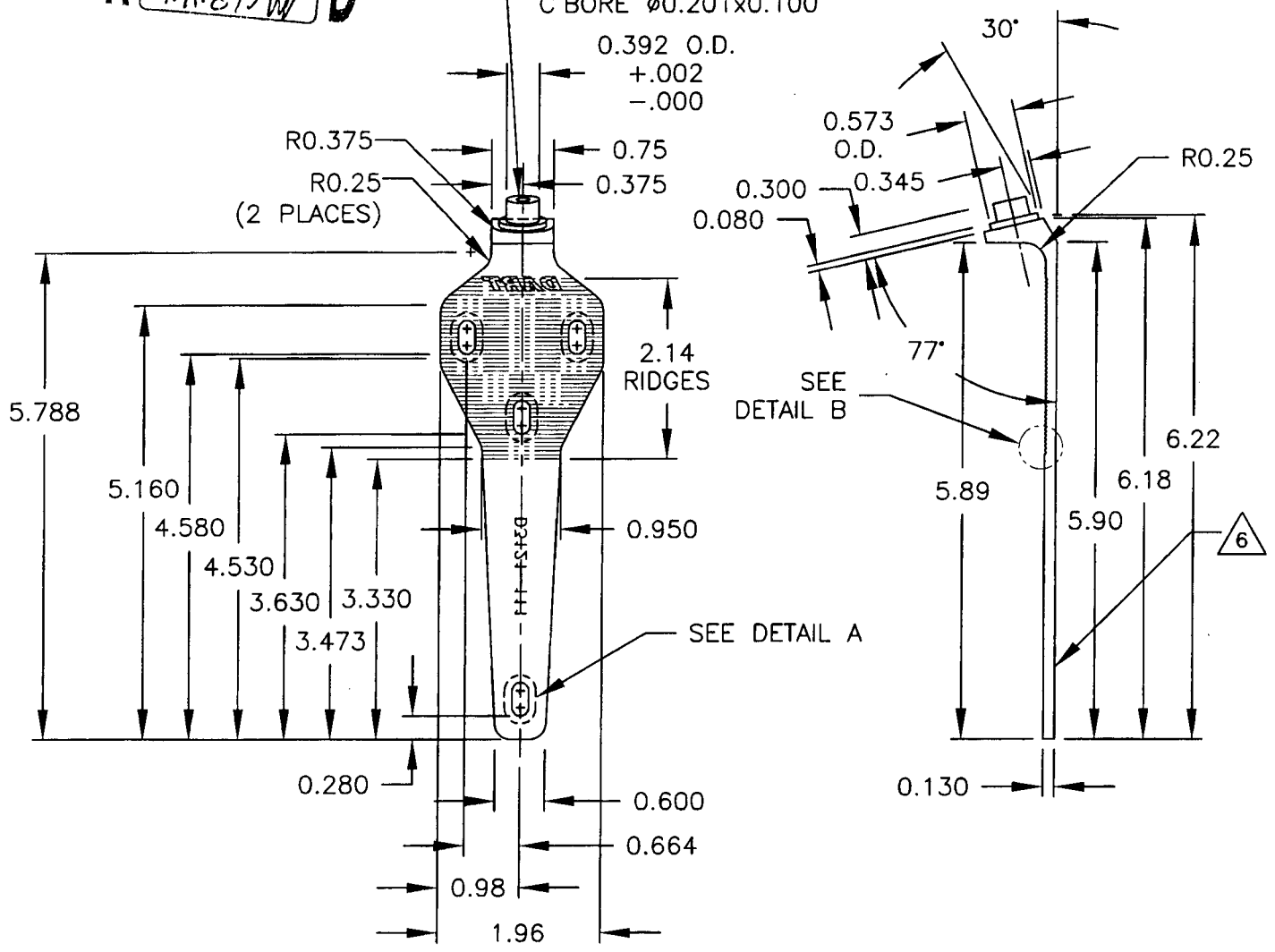
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07 JW



D3121-111 BRACKET

1) REPLACES PREMIER P/N B32-23001-11
2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE = 150 ksi
   MIN YIELD TENSILE = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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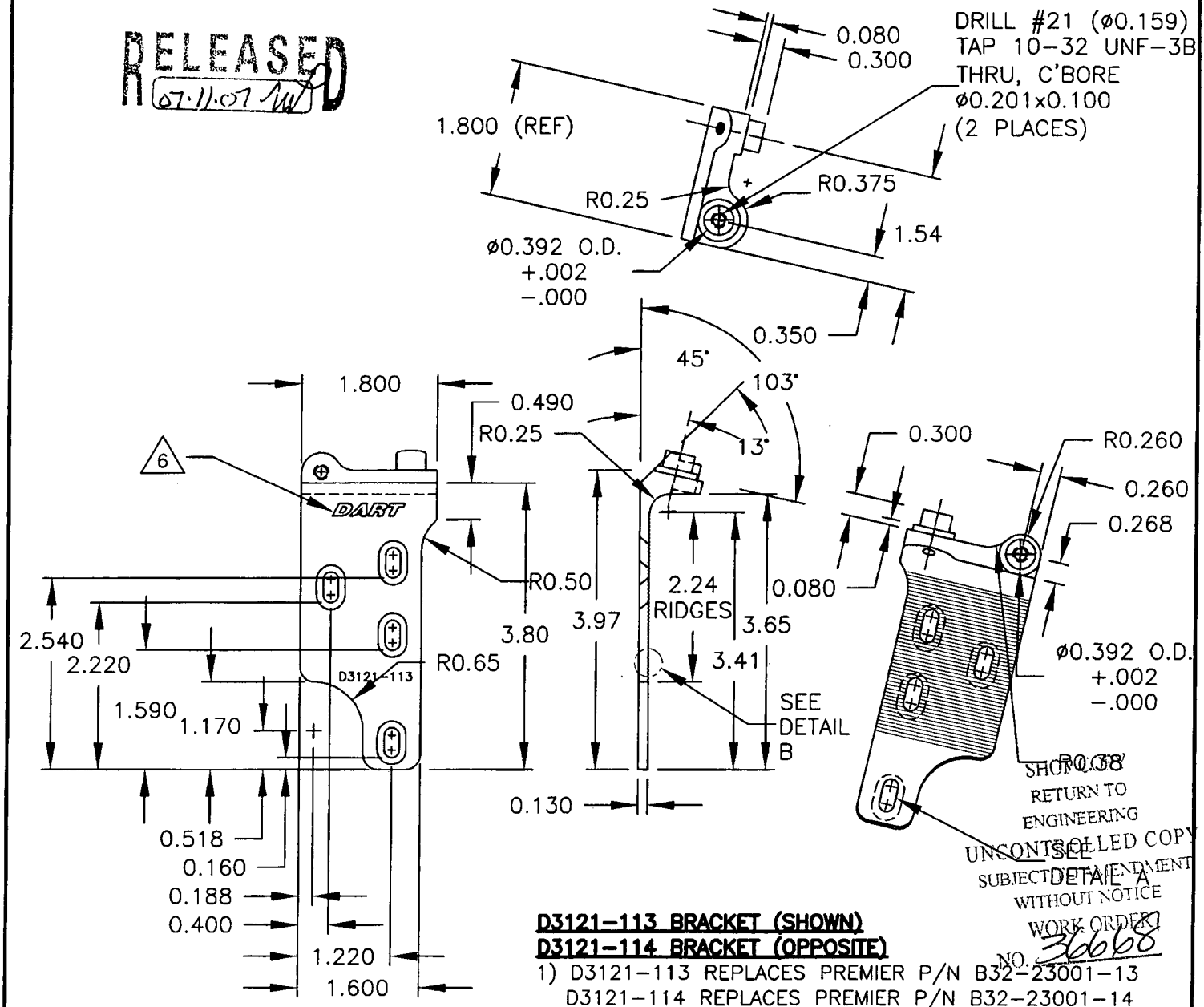
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 8 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07



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D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

1) D3121-113 REPLACES PREMIER P/N B32-23001-13
   D3121-114 REPLACES PREMIER P/N B32-23001-14
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 9 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

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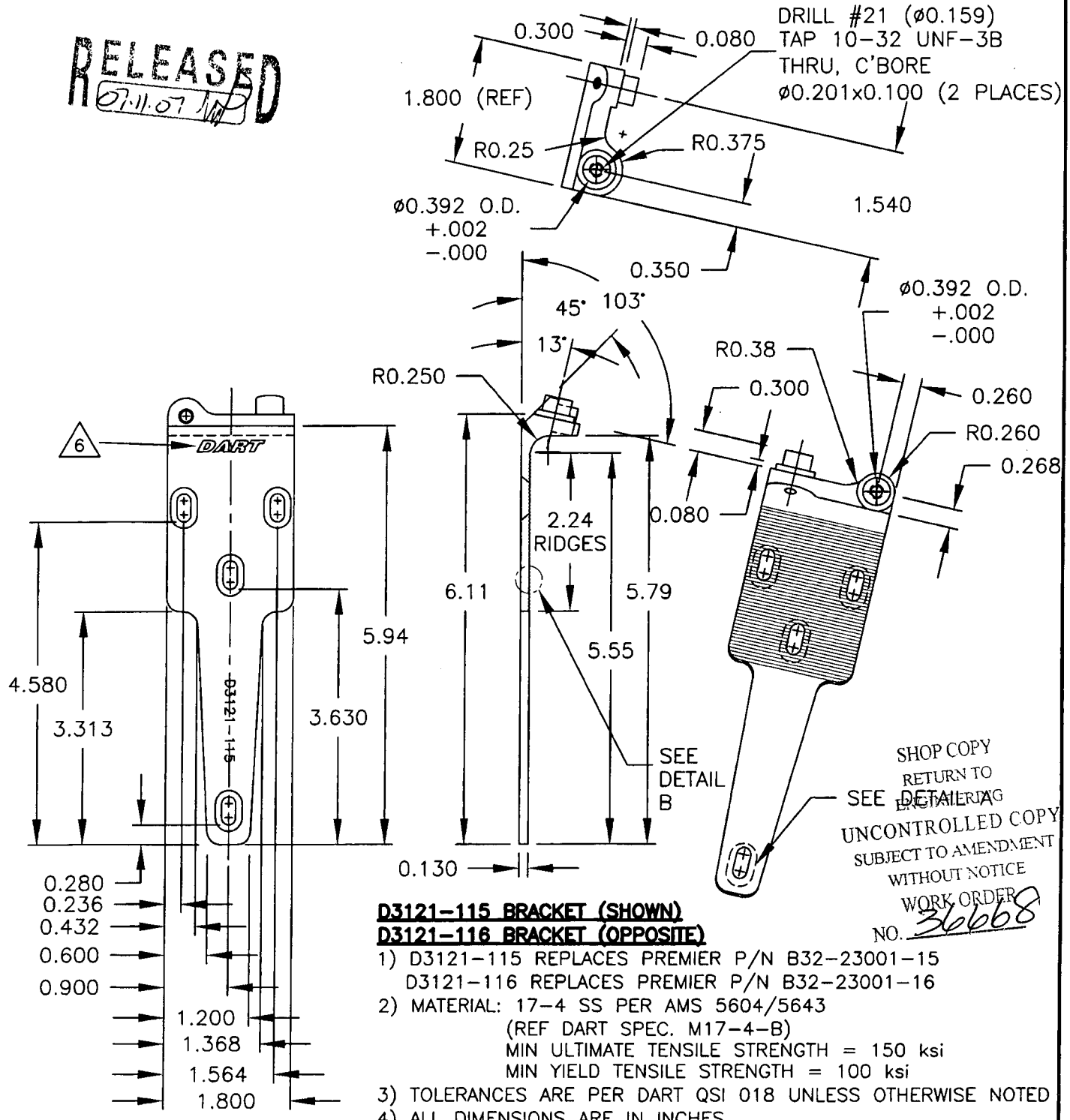
07.11.07



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NO. 36668

D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)

1) D3121-115 REPLACES PREMIER P/N B32-23001-15
   D3121-116 REPLACES PREMIER P/N B32-23001-16
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE TENSILE STRENGTH = 150 ksi
   MIN YIELD TENSILE STRENGTH = 100 ksi
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015
6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3121	REV. E SHEET 10 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

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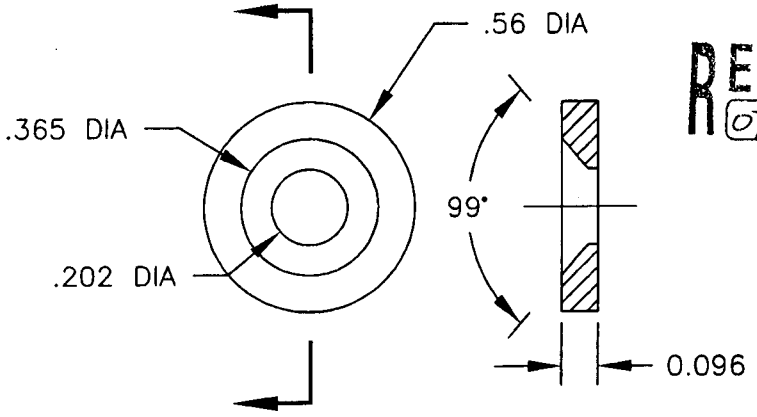
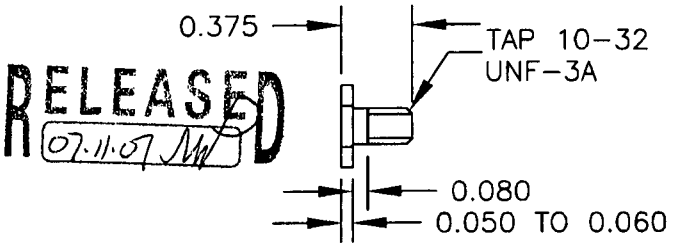


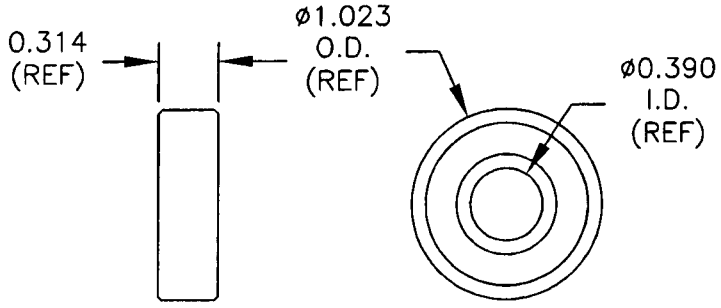
D3121-17 WASHER (SCALE 2:1)

1) REPLACES PREMIER P/N B32-23001-17
2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015



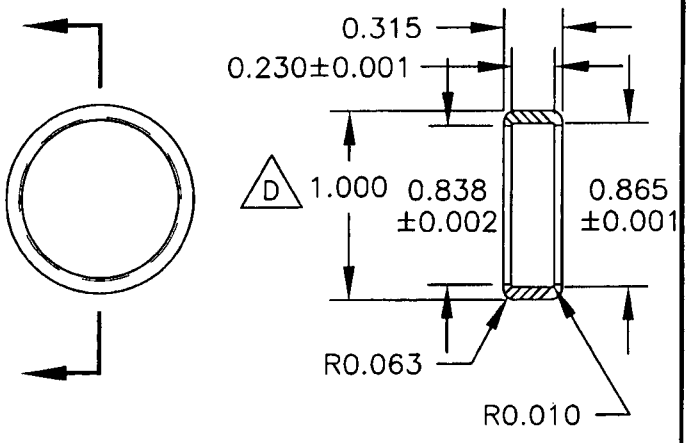
D3121-21 BOLT (SCALE 1:1)

1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
2) FINISH: NONE
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.015



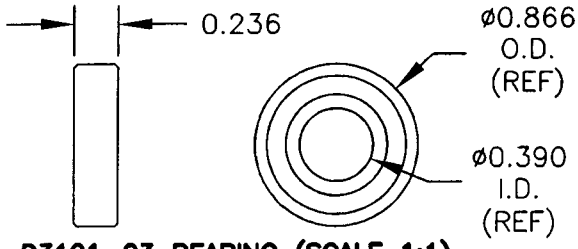
D3121-19 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
2) ALL DIMENSIONS ARE IN INCHES



D3121-25 CAP (SCALE 1:1)

1) MATERIAL: DELRIN ROD, ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES



D3121-23 BEARING (SCALE 1:1)

1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-ZZ
2) ALL DIMENSIONS ARE IN INCHES

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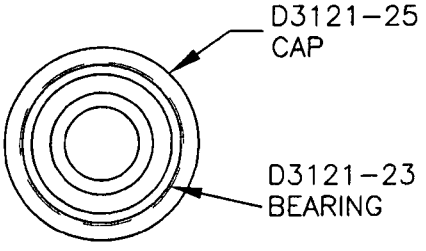

D3121-241 BEARING ASSEBLY (SCALE 1:1)